

CLAIMS:

1. A composition comprising:
at least about 10 percent perfluoroalkylsulfonamideoethyl acrylate;
at least about 5 percent aliphatic urethane acrylate oligomer;
at least about 1 percent acrylate monomer; and
less than about 84 percent other reactive and non-reactive components.
2. The composition of claim 1 in which the acrylate monomer includes multifunctional acrylate monomer in a concentration of at least about 0.1 percent of the composition.
3. The composition of claim 2 comprising at least about 1.0 percent multifunctional acrylate monomer.
4. The composition of claim 2 comprising less than about 10 percent of a multifunctional acrylate monomer.
5. The composition of claim 2 comprising less than about 6 percent of a multifunctional acrylate monomer.
6. The composition of claim 2 in which the multifunctional acrylate monomer is hexanediol diacrylate.
7. The composition of claim 1 further comprising at least about 0.5 percent initiator.
8. The composition of claim 7 in which the initiator is a photoinitiator.

9. The composition of claim 8 comprising at least about 1.0 percent photoinitiator.
10. The composition of claim 8 comprising less than about 5 percent of a photoinitiator.
11. The composition of claim 8 in which the photoinitiator is a free radical photoinitiator.
12. The composition of claim 11 in which the photoinitiator is phenyl bis(2,4,6 trimethyl benzoyl) phosphine oxide photoinitiator.
13. The composition of claim 11 in which the photoinitiator is α,α -diethoxyacetophenone photoinitiator.
14. The composition of claim 1 comprising less than about 70 percent of a perfluoroalkylsulfonamideoethyl acrylate.
15. The composition of claim 14 comprising less than about 50 percent of a perfluoroalkylsulfonamideoethyl acrylate.
16. The composition of claim 1 in which the perfluoroalkylsulfonamideoethyl acrylate is N-methyl-perfluorobutylsulfonamideoethyl acrylate.
17. The composition of claim 1 comprising at least about 10 percent aliphatic urethane acrylate oligomer.

18. The composition of claim 1 comprising less than about 50 percent of an aliphatic urethane acrylate oligomer.
19. The composition of claim 1 comprising less than about 40 percent of an aliphatic urethane acrylate oligomer.
20. The composition of claim 1 comprising at least about 8 percent acrylate monomer.
21. The composition of claim 1 comprising less than about 30 percent of an acrylate monomer.
22. The composition of claim 1 comprising less than about 20 percent of an acrylate monomer.
23. The composition of claim 1 in which the acrylate monomer is ethoxyethoxyethyl acrylate.
24. The composition of claim 1 having a viscosity before polymerization of at least about 400 centipoises.
25. The composition of claim 1 having a viscosity before polymerization less than about 1,500 centipoises.
26. The composition of claim 1 further comprising a light absorbing pigment.
27. The composition of claim 26 in which the light absorbing pigment is carbon black.

28. The composition of claim 27 in which a concentration of carbon black is at least about 1000 ppm.
29. The composition of claim 27 in which a concentration of carbon black is about 3000 ppm.
30. The composition of claim 27 in which a concentration of carbon black is less than about 10,000 ppm.
31. A film comprising the composition of claim 1.
32. An optical material comprising a copolymer of at least perfluoroalkylsulfonamideoethyl acrylate, aliphatic urethane acrylate oligomer, and acrylate monomer.
33. The optical material of claim 32 having a refractive index less than about 1.50.
34. The optical material of claim 33 having a refractive index less than about 1.45.
35. The optical material of claim 32 having a peel force strength with polycarbonate of at least about 35.7 kg/m (2 pounds/inch).
36. The optical material of claim 32 having a peel force strength with polycarbonate of at least about 71.4 kg/m (4 pounds/inch).
37. A film for a screen comprising:

a light transmitting substrate;
a plurality of structures disposed on the substrate, the structures defining a plurality of cavities therebetween; and
an adhesive at least partially filling the cavities, the adhesive comprising a copolymer of perfluoroalkylsulfonamideoethyl acrylate, aliphatic urethane acrylate oligomer, and acrylate monomer.

38. The film of claim 37 in which the acrylate monomer comprises a multifunctional acrylate monomer.
39. The film of claim 37 in which the copolymer comprises an initiator.
40. The film of claim 39 in which the initiator is a photoinitiator.
41. The film of claim 37 in which the plurality of structures have a first refractive index and the adhesive has a second refractive index, the second refractive index being less than the first refractive index.
42. The film of claim 38 in which a difference between the first refractive index and the second refractive index is at least about 0.06.
43. The film of claim 37 further comprising a shield laminated to the structures by the adhesive.
44. The film of claim 37 in which the adhesive completely fills the cavities.
45. The film of claim 37 in which each structure has a base and a plurality of walls which narrow the structure as the walls extend from the base.

46. The film of claim 45 in which each structure is a rib.
47. The film of claim 37 in which the light transmitting substrate comprises a first material and the plurality of structures comprise the first material and a plurality of light diffusing particles.
48. The film of claim 37 in which each structure is light diffusive.
49. The film of claim 37 in which the adhesive is light absorbing.
50. The film of claim 49 in which the adhesive includes a black pigment.
51. A method of forming a film comprising:
providing a light transmitting substrate having a plurality of structures disposed thereon, the structures defining a plurality of cavities therebetween; and
at least partially filling the cavities with an adhesive, the adhesive comprising:
at least about 10 percent perfluoroalkylsulfonamideoethyl acrylate;
at least about 5 percent aliphatic urethane acrylate oligomer; and
at least about 1 percent acrylate monomer.
52. The method of claim 51 in which the acrylate monomer comprises multifunctional acrylate monomer in a concentration of at least about 0.1 percent of the adhesive.
53. The method of claim 52 in which the adhesive further comprises at least about 0.5 percent initiator.

54. The method of claim 53 in which the initiator is a photoinitiator.
55. The method of claim 51 in which the plurality of structures have a first refractive index and the adhesive has a second refractive index, the second refractive index being less than the first refractive index.
56. The method of claim 55 in which a difference between the first refractive index and the second refractive index is at least about 0.06.
57. The method of claim 51 further comprising laminating a shield to the structures with the adhesive.
58. The method of claim 51 in which the step of filling the cavities includes completely filling the cavities with the adhesive.
59. The method of claim 51 in which each structure is light diffusive.
60. The method of claim 51 in which the adhesive is light absorbing.
61. The method of claim 60 in which the adhesive includes a pigment.
62. A composition comprising:
 - at least about 10 percent perfluoroalkylsulfonamidoalkyl acrylate;
 - at least about 5 percent aliphatic urethane acrylate oligomer;
 - at least about 1 percent acrylate monomer; and
 - less than about 84 percent other reactive and non-reactive components.

63. The composition of claim 1 in which the acrylate monomer is perfluoroalkanoamidoalkyl acrylate.